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| **Monday** | **Tuesday**  **UNIT PLAN**  **SCH3U**  **Topic: Chemical Reactions** | **Wednesday** | **Thursday** | **Friday** |
| **1**  **Review - Electronegativity + IUPAC**  **Intro to Chemical Reactions**  **Minds On: Chemical Reactions Video + Placemat Activity**  **AfL – Prior Knowledge**  **SE- C2.1, C2.2** | **2**  **Review on Chemical Bonding & Intro to terminology** (products, reactants, reagents)  **Introduction to STSE Blog Assignment**  **SE- C2.1** | **3**  **Review on IUPAC nomenclature**    **SE- C2.2, 2.3, 2.4, 2.5, 2.6** | **4**  **Balancing chemical equations + Worksheet to practice**  **AfL/AaL – Worksheet**  **SE- C2.2, 2.4, 2.5, 2.6** | **5**  **Formative Quiz on Balancing Equations**  **Types of Reactions** (Synthesis, Decomposition, Single Displacement and Double Displacement)  Writing Equations to represent Types of Reactions  **SE- C2.1, 2.2, 3.1**  **Afl/AaL – Quiz** |
| **6**  **Types of Reactions** **Cont’d** Metal & Halogen Single Displacements, Products of double displacements (ppt, gas, neutralization)  **SE- C2.5, C2.6** | **7**  **Types of Reactions Cont.** Neutralization (acids + bases) & Combustion, Demo on Combustion  **AfL/AaL - Assign Problem Set (Worksheet on Recognizing Reactions in Groups**)  **SE- C2.7, C3.1** | **8**  **Take up worksheet on Recognizing Reactions**  **Formative Quiz on Types of Reactions**  **AfL – Quiz**  **SE- C2.2, 2.4, 2.5, 2.6** | **9**  **Intro to Lab: Investigating Chemical Reactions**  **STSE Blog Entry Due**  **Activity 1: Chemical Reactions Jigsaw**  **AfL- Pre-lab Questions**  **AfL- Jigsaw Activity**  **SE- A1.3** | **10**  **Experiment 1: Investigating Chemical Reactions**  **AfL/AaL – Observation Chart + Discussion Questions**  **SE-A1.5, A1.6, C2.3, C2.10** |
| **11**  **Discussion and Analysis of Experiment 1 + Wrap Up**  **SE-A1.11, C1.1, C2.3, C2.10** | **12**  **Metal and Non-metal Oxides**  -Properties of Oxides  -Acidic/ Basic Oxides  **SE- C2.4, C3.3** | **13**  **Case Study and Class Discussion:** Chemical Reactions and Industrial applications, environmental applications  **AfL- Participation in Class Discussion**  **SE – C1.1, C1.2, A2.2** | **14**  **Video on Environmental Impacts** **of Chemical Reactions (Fill out handout-Formative Check)**  **Peer Assessment for Lab Report**  **AfL- Worksheet**  **AaL- Peer Assessment**  **SE-A2.2, C1.1, C1.2,** | **15**  **Work Period** in Computer Lab for STSE BlogResponses  **Formal Lab Report Due**  **AoL – Lab Report**  **SE-A1.11, C1.1, C1.2** |
| **16**  **Review for Test**  **Activity 2: Games Tournament- Pick A Card**  **STSE Blog Responses Due**  **AfL/AaL - Review Activity** | **17**  **Review for Test** | **18**  **Unit Test**  **AoL- Unit Test** |  |  |

**Legend:**

**Blue – Introduction to Unit + IUPAC Naming + Balancing Equations**

**Pink – Types of Chemical Reactions**

**Green- Relating Science to STSE**

**Yellow – Review for Test + Summative Test**

**Rationale:** The “Chemical Reactions” unit is the second unit in the Grade 11 curriculum and follows right after the “Matter, Chemical Trends and Chemical Bonding” unit. Therefore, the first week for the unit focuses on prior knowledge that students need to build on from Grade 10 chemistry and the first unit from the grade 11 curriculum. These topics include nomenclature (naming and writing formulas of molecular compounds), covering different types of bond (covalent vs. ionic) and balancing equations. Therefore, the first four days of the unit are based on prior knowledge and skills that are essential for the Grade 11 course, and students will be given worksheets and lots of practice to ensure that students have a strong foundation. Furthermore, we have decided to introduce the STSE Blog assignment early on because students can start posting their blog entries and blog responses before the actual due dates and will know what is expected from them as well. The second and third weeks (pink) on the calendar focuses on the main content for the unit, which is to learn about the different types of chemical reactions, including metal and non-metal oxides and we also have one experiment embedded within that time frame. The end of the second last week (green) will focus primarily on relating STSE to the chemical reactions unit and we have allotted 2 days for test review and the unit test is placed on the last day. Therefore, we have three major summative (AoL) tasks: STSE blog, formal lab report and the unit test.

**Concepts Covered in the Unit:**

* Chemical and physical properties of a substance
* Law of conservation of mass
* Balanced chemical equations
* Environmental effects of chemical reactions
* Properties of acids and bases

**Skills:**

* Naming and writing chemical formulas of an ionic or molecular compound
* Writing balanced chemical equations for a given reaction
* Research and collect information
* Plan and conduct investigations
* Communicate scientific information clearly and accurately